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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,568	03/21/2006	Tetsuya Utsumi	5000-5287	6665

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EXAMINER
GREEN, TRACIE Y

ART UNIT	PAPER NUMBER
2809	

MAIL DATE	DELIVERY MODE
07/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,568

Applicant(s)

UTSUMI ET AL.

Examiner

Tracie Y. Green

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/21/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :12/12/05 and 01/30/06

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Isaka Et Al (U.S. Pat. 6,080,030).

Isaka Et Al discloses an EL device comprising:

Regarding claim 1:

- a. A substrate (Column 2 lines 20-23 and Figure 1 #4);
- b. An intermediate layer formed on a surface of the substrate and having irregularities formed on a surface opposite to a surface which is in contact with the substrate (Column 2 lines 43-45)
- c. A first electrode layer formed on the intermediate layer (Column 2 lines 25-26, Figure 1 and #12)
- d. A light emitting layer formed on the first electrode layer; (Column 2 lines 28-32, Figure 1 and #12)
- e. A second electrode layer formed on the light emitting layer, at least one of the layers formed on the surface of the intermediate layer which has the

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irregularities thereon extending along a surface of the layer which is in contact with the at least one of the layers on a side of the intermediate layer (Column 1, 8 lines 30-40).

Regarding claim 2, formed in a substantially uniform thickness. (Column 1, lines 30-40).

Regarding claim 3, wherein the at least one of the layers has a curved shape conforming to the surface of the intermediate layer on which the irregularities are formed (Column 6, lines 30-40).

Regarding claim 4, wherein the light emitting layer has a curved shape conforming to the surface of the intermediate layer on which the irregularities are formed (Column 6, lines 58-65).

Regarding claim 5, wherein one of the first electrode layer and the second electrode layer opposite to a light taking-out side with respect to the light emitting layer is formed of a reflective electrode (Column 3 lines 25-30 and figure).

and the other is formed of a transparent electrode, and the reflective electrode has a curved shape conforming to the surface of the intermediate layer on which the irregularities are formed (Column 6 lines 46-48 and figure 4# 6)

Regarding claim 6, wherein the intermediate layer is formed of a photo resist (Column 6 lines 20-25)

Regarding claim 7, wherein the intermediate layer is formed of a sheet previously provided with an irregularity shape on its surface and affixed onto the substrate (Column 6 lines 30-35)

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Regarding claim 8, wherein the surface of the intermediate layer on which the irregularities are formed is an irregularity surface on which a concave portion and a convex portion are formed at random. (Column 6 lines 40-45)

Regarding claim 12:

- a) Forming on a surface of a substrate an intermediate layer having a surface on which irregularities are formed (Column 2 lines 40-48).
- b) Forming a first electrode layer on the intermediate layer; forming a light emitting layer on the first electrode layer (Column 12 lines 25-30 and figure);
- c) Forming a second electrode layer on the light emitting layer,
- d) At least one of the layers formed on the surface of the intermediate layer on which has the irregularities thereon extending along a surface of the layer which is in contact with the at least one of the layers on a side of the intermediate layer.

Regarding claim 13, wherein one of the first electrode layer and the second electrode layer opposite to a light taking-out side with respect to the light emitting layer is formed of a reflective electrode, and the other is formed of a transparent electrode, and a surface of the reflective electrode has a curved shape conforming to the surface of the intermediate layer on which the irregularities are formed. (Column 6 lines 30-35 and Figure 10 and 1)

Regarding claim 14, wherein the at least one of the layers includes the light emitting layer (Column 3 lines 58-64 and figure)

Regarding claim 15, used for a backlight. (Column 9 lines 36-45)

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isaka Et Al in view of Gardiner Et Al (U.S. Patent 6,091,547).

Isaka Et Al's invention discloses all of the claimed limitations from above except for at least one prism sheet disposed on a light taking-out side with respect to the light emitting layer; and at least one prism sheet has a plurality of linear convex portions disposed in parallel to each other, each of the linear convex portions being sharply pointed to have a triangular shape in cross section.

However Gardiner Et Al teaches,

Regarding claim 9, further comprising at least one prism sheet disposed on a light taking-out side with respect to the light-emitting layer.

Regarding claim 10, wherein the at least one prism sheet has a plurality of linear convex portions disposed in parallel to each other, each of the linear convex portions being sharply pointed to have a triangular shape in cross section.

5. Given the teachings of Gardiner Et Al, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the EL device of Isaka Et Al with at least one prism sheet disposed on a light taking-out side with respect to the light emitting layer; wherein the at least one prism sheet has a plurality of linear convex

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portions disposed in parallel to each other, each of the linear convex portions being sharply pointed to have a triangular shape in cross section.

Doing so would provide a device such that the scattering and diffusion can be more easily done, as well as improving the luminance efficiency of the above device.

Allowable Subject Matter

6. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

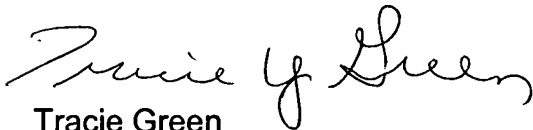
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited for disclosing related limitations of the applicant's claimed and disclosed invention: US 5756147 A, US 6181062 B1, US 6091078 A, US 4792500 A, US 5432015 A, US 20020000772 A1, US 6608333 B1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracie Y. Green whose telephone number is 571/270-3104. The examiner can normally be reached on Monday-Thursday- 7:30am-5:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrell McKinnon can be reached on 571/272-4797. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tracie Green
May 17, 2007



TERRELL L. MCKINNON
SUPERVISORY PATENT EXAMINER